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CAMPS IN THE CATALINAS AND WHITE MOUNTAINS OF ARIZONA, WITH DESCRIPTION OF A NEW AMERICAN LAND SHELL.

BY JAS. H. FERRISS.

On my last vacation last summer I found a new land snail, another wooly one, on a rock slide of the San Francisco river, about ten miles above Clifton, Graham Co., Arizona. It belongs in a group with Ashmunella walkeri Ferriss and A. lepiderma P. & F. I have held this out to name after Dr. H. A. Pilsbry who has been with me on so many of these vacation excursions and ought to have been with me on this. Dr. Pilsbry has taken the laboring oar on the catch of this expedition otherwise, and together with the findings of the catch of Pilsbry, Daniels and Ferriss in southern Arizona for 1910, the report will be published in the Proceedings of the Academy of Natural Sciences, Philadelphia.

ASHMUNELLA PILSBRYANA n. sp.

Shell lens-shaped, acutely carinated; umbilicus straight and narrow, 1.6 min. wide, enlarging on the last turn to 3 mm. Thin, pale, corneous brown. Surface sculptured with irregular growth striæ, closely papillose, not striated spirally: covered with a thin dull epidermis, with short, light colored, cuticular scales upon the papillæ in young, unrubbed specimens. $5\frac{1}{2}$ whorls, rounded, deeply sutured, last whorl impressed above the periphery; lower side of last whorl three times as wide as the upper surface; deeply guttered behind the lip.

Aperture wide and oblique; parietal callus barely visible, carrying a nearly straight parietal lamella which runs nearly parallel with the lower edge of the aperture, and is bent inward at the outer end, in shape a fair representation of a letter J reversed. 3 teeth upon the outer lip well developed: a wide tooth just below the peripheral angle, somewhat receding or set back from the lip; a pair of teeth upon the basal margin, yoked together at their outer ends, and extending inward across the thickening of the peristome, in shape therefore like the letter U.

Alt. 5.7, diam. 14 mm.

Largest shell 14.8 mm. diam. by 6.4 alt. Smallest, 13.9 diam. by 6.1 alt.

The shell in color and general appearance seems close to A. walkeri Ferr., but is larger, being less depressed, and it has a narrower umbilicus and more whorls. In sculpture and epidermal covering it is similar to A. lepiderma P. & F., of which the new species is a sort of large edition.

Cotypes in coll. Academy of National Sciences, Philadelphia, and in my own collection.

In a hasty search I found but eight of these, of which two were alive, at the foot of a rocky slide on the east bank of the river in company with *Sonorella* and smaller shells.

May 7th, 1913 I left Joliet just a-crawling, for there had been no vacations since 1910, and the fight for bread had been usually hard. I returned home October 20th, the longest vacation I ever had; and the best of it is, the bread question is settled so that I shall not want, and the vacations hereafter can be as frequent and long as I please.

Until September, I chaperoned a party of invalids in the Santa Catalina Mountains near Tucson. This chaperoning and my own tired feeling prevented me from making a complete survey of that range, though I had done a little of it in 1910. I brought home a large quantity of dirt containing Pupas, many cans of dead Sonorellas, and the skins of five kinds of rattle-snakes, picked off of 'em here and there in the hills.

With Frank Coles, a splended guide and biscuit maker, I drove across the plains and over the mountains from Tucson to Wilcox, then to the Graham Mountains, Solomonville, the Peloncillo Mts., and to Clifton, picking up snails, snakes, terrapins, ferns and daisies; occasionally a few peaches, melons, and our own belongings. It was

an interesting ride. As a rule the condition of the highways for exercise, equals any gymnasium this side of the Alleghanies. We tipped our wagon over in the Graham Mountains, but we held it up all but once, anyhow.

Physa was found in the water tanks and cienegas, and Oreohelix strigosa depressa and a Sonorella were found in the Grahams; another Sonorella in the Peloncillos, but more of them are there.

This was a mere scouting expedition to see how the land lay for ferns and snails another year. We seldom remained more than one night in the same camp, hitting high spots for collecting at meal times, and before hitching up.

Coles knew where the water was and where it was not, and so arranged the drinks. At Clifton, we corralled our wagon, and with horses to ride and mules to pack, continued the journey to the White Mountains of Arizona (not new Mexico). On Eagle Creek, the fourth day, we commenced to find Oreohelix. As we climbed over the edge of the Blue Range, I found an Ashmunella of the chiricahuana group and Oreohelix in the pine woods under logs. This was at 12,000 feet above the sea, but the ascent had been gradual. It did not seem high. From this point to the top of the White Mountains (Old Baldy, 14,000 feet,) the ascent was easy, the trail fine, the grass high and cattle fat.

Upon the return trip, we left the Eagle Creek trail at the Rim of the Blue Mts. and dropped down Raspberry Canyon to the Blue River, 5000 feet, returning to Clifton by the Blue and San Francisco Rivers. At about 4,000 feet, Sonorellas were found again, and Ashmunella pilsbryana. The rocky slides looked inviting. It was a hard race for horse feed, as the floods had destroyed grazing on the flats, the bluffs were unscaleable, and duty called me home. I opened only four "slides" in the last fifty miles.

The river's banks have the best prospects. At every slide I scratched, I found a new species. All had been unexplored country conchologically, and I expected to find great things, large as tea saucers, banded and punctuated with scarlet, clothed in feathers and spines. Nevertheless, I found a dozen or so that are new; and next year I hope to revisit the neglected slides and go farther into the big mountains. I know the way now.

Cole shot a bear and we ate it up, also several deer and other smaller things. The streams were full of speckled trout and the

pine and spruce forest a continual delight. The Oreohelix were beautiful in colors, quite equal to those neutral brown tints of the Philippine snails.

Everything, all summer long, in Sonorellas, Ashmunellas and Oreohelix, except one *Oreohelix* and one group of *Sonorella*, was found in the rocky slides or talus, and many were dead. I had theories that dry weather, epidemics, insects or fungi had killed them, but most of these theories are also dead, or in a dying condition. Perhaps I did not stay long enough upon one slide to find their home. It is nearly all slide work, and healthy. After sleeping nearly half a year under the stars in the high woods, I am strong as a farmer. Those invalids I chaperoned are well.

Joilet, Ill., Nov., 1913.

PHYSA HETEROSTROPHA SAY IN EUROPE.

BY ZDENKA FRANKENBERGER.

Of late there have appeared in the literature many statements of the presence of Physa acuta Drap. in Central Europe. It was found in Leipsic, Gotha, Königsberg, Jena, Dresden, Munich, Copenhagen, Basil, etc., almost always in botanical or other gardens, where it was thought to have been brought in by the aquarists. In the neighborhood of Prague we could confirm some years ago, a species of Physa which was remarkable by its size and quite another form of the shell than are the two common Bohemian species of Physa, Physa fontinalis L. and Aplexa hypnorum L. It could not be identified with Physa acuta, but it is surely the American species, Physa heterostropha Say, as it was stated already in the Catalogue of Bohemian Molluscs by Babor and Novak. With some care one cannot be mistaken in the right determination of this snail, for both the shell (with thicker walls, a lip in the aperture and of a large size) and the animal (more robust, olivaceous) are quite different from Physa acuta, which does not occur in the eastern parts of Europe, and the eastern frontier of the distribution of which is the

¹ Babor u. Novak, Verzeichniss der posttertiären Fauna der böhmischen Weichtiere. Nachrbl. d. deutschen Malakozool. Ges., 1909.